

# Guide to identify common cherry rot pathogens



Department of  
Primary Industries



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TASMANIAN  
INSTITUTE OF  
AGRICULTURE

Horticulture  
Innovation  
Australia

## Getting started

The fungal pathogens that cause cherry fruit to rot are not easy to identify, but with some practice you can get familiar with the main species. There is a **glossary** with terms at the end of this guide. You can tell which fungus is which is by looking at the colour, texture and spores of the fungus.

To examine the spores you have two options:



For rotten fruit with **VISIBLE** fungal threads and spores, you can look directly at the sample fresh.



For rotten fruit with no visible evidence of fungi yet, put it in a plastic bag (room temperature) for a day or two, then look at the spores that grow.

Once you have a fruit sample with mycelium and spores, you can first examine it with either:

- a hand lens (Figure 1-1)
- bench top low power microscope (Figure 1-2)
- microscope fitted to a camera (e.g. iphone) (Figure 1-3)

If you wish to examine the structures more closely you need to use a high powered microscope (Figure 1.4). Fungal material needs to be removed from the surface of the fruit and placed on a glass slide, before staining (preferably lactoglycerol blue).

If you are new to identification of rot pathogens, it is essential to have your identification confirmed by sending some representative samples to your local diagnostic service provider (see Appendix).



(1)



(2)



(3)



(4)

Figure 1. Helpful tools to examine rotten fruit

## ***Botrytis cinerea* (grey mould)**

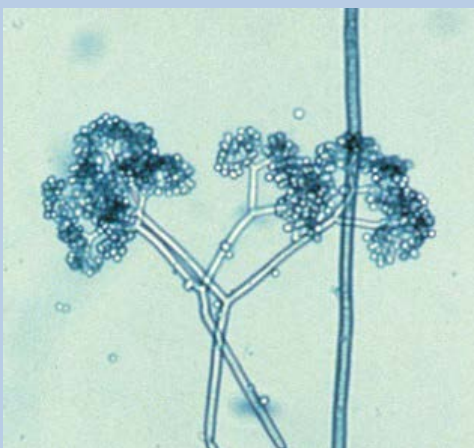
Rotten fruit develops a grey-brown colour mould when the fungus starts to grow and the spores give it a “sandy” texture when it is not wet. The older mould on rotten fruit can become flattened and tan in colour.



Cherry pip on orchard floor covered in *Botrytis* spores



How it looks with a hand lens or low power microscope. The strands of the fungus are black (mycelium) and the spores are white/grey. The strands are branched and the spores form in clumps on the end. (Photo: John Deacon)



How it looks when prepared on a glass slide and viewed with a high power microscope. (Photo: APS net)

## *Monilinia laxa* and *Monilinia fructicola* (brown rot)

These photos will help you determine if you have *Monilinia*, but not which species. It is only possible to determine whether it is *M. laxa* or *M. fructicola* for certain by laboratory testing.



Aborted fruit with dense sporulation



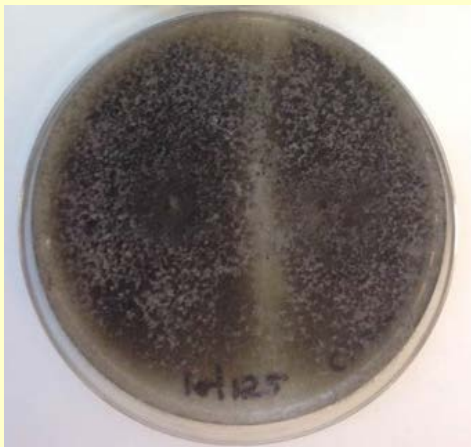
How it looks with a hand lens or low power microscope. (Photo: José Luis, *M. laxa*)



How it looks on a glass slide and viewed with a high power microscope. These are chains of spores. The material has been stained with a blue dye.

## ***Alternaria alternata***

This fungal pathogen causes sunken spots that turn dark and dull in appearance. Fungal growth covers the lesions.



How it looks when grown on an agar plate. Growth looks white at first and then turns dark.



How it looks on a glass slide and viewed with a high power microscope. The spores are large, multi-celled and very distinctive. These spores have not been stained.

(Photo: Eric McKenzie)

## Photo reference of other common disease and damage symptoms



**Frost damage**  
(Kevin Dodds)



**Earwig damage**  
(Kevin Dodds)



**Thrips damage**  
(Kevin Dodds)



**Russet (wind, cold injury)**  
(Kevin Dodds)



**Sclerotinia white rot**  
(Len Tesoriero)



**Bacterial canker spot**  
(George Sundin)



**Bitter rot**  
(unknown)

# Appendix

## Diagnostic services

### Queensland

Queensland department of Agriculture and Fisheries also have several locations see below.

<https://www.daf.qld.gov.au/plants/health-pests-diseases/plant-pest-diagnostic-services>

### Tasmania

Plant Biosecurity and Diagnostics Branch  
Biosecurity Tasmania  
Dept of Primary Industries, Parks, Water & Environment

New Town Laboratories  
13 St John's Avenue

NEW TOWN

TAS 7008

AUSTRALIA

Ph: 03 6165 3252

<http://dpiwwe.tas.gov.au/biosecurity/plant-biosecurity/plant-health-laboratories/plant-pathology-laboratory>

### Western Australia

AGWEST Plant Laboratories  
Department of Agriculture and Food  
Reply Paid 83377

3 Baron-Hay Court

South Perth WA 6151

+61 (0)8 9368 3721

[agwestplantlabs@agric.wa.gov.au](mailto:agwestplantlabs@agric.wa.gov.au)

<https://www.agric.wa.gov.au/agwest-plant-laboratories>

### South Australia

Delivering samples

Courier:

SARDI, Plant and Soil Health

Plant Research Centre

Gate 2B, Hartley Grove

Urrbrae SA 5064

Postal:

SARDI, Plant and Soil Health

Locked Bag 100

Glen Osmond SA 5064

Phone: (08) 8303 9585 or (08) 8303 9358

Fax: (08) 8303 9393

Email: [sue.pederick@sa.gov.au](mailto:sue.pederick@sa.gov.au)

<http://www.pir.sa.gov.au/research/services/crop-diagnostics/seed-and-crop-testing>

### NSW

NSW department of Primary Industries have 2 laboratory sites, Menangle and Orange (see below for contact details).

<http://www.dpi.nsw.gov.au/aboutus/services/das/plant-pests-diseases#Available-services>

### Victoria

Crop Health Services

Telephone: (03) 9032 7515

Fax: (03) 9032 7604

AgriBio Specimen Reception

Main Loading Dock, 5 Ring Road,

La Trobe University, Bundoora VIC 3083

<http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/diagnostic-services>

## Glossary of terms

**Mycelium** – The long network of individual threads/strands (hyphae) that make up the vegetative body of a fungus

**Hyphae** – Individual fungal threads/strands

**Spores** – The reproductive unit of fungi (it is similar to the seed of a plant – but much smaller)



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